

What is claimed is:

1. A liquid crystal display device comprising:  
a liquid crystal display panel;  
a printed circuit board disposed close to the liquid crystal display panel; and

a semiconductor device of a film carrier type which is disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of the semiconductor device being respectively connected by an anisotropic conductive film to terminals of the printed circuit board that are disposed in opposition to the respective terminals of the semiconductor device,

each of the terminals connected by the anisotropic conductive film being spaced apart from an adjacently disposed terminal by a distance of 0.40 mm or less.

2. A liquid crystal display device according to claim 1, wherein each of the terminals connected by the anisotropic conductive film is spaced apart from an adjacently disposed terminal by a distance of 0.32 mm or less.

3. A liquid crystal display device comprising:  
a liquid crystal display panel;  
a printed circuit board disposed close to the liquid crystal display panel; and

a semiconductor device of a tape carrier type which is

disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of the semiconductor device being respectively connected to terminals of the printed circuit board by an anisotropic conductive film,

each of the terminals connected by the anisotropic conductive film being spaced apart from an adjacently disposed terminal by a distance of 0.02 mm or less.

4. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a plurality of semiconductor devices of a film carrier type which are disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of each of the plurality of semiconductor devices being respectively connected to terminals of the printed circuit board by an anisotropic conductive film,

the anisotropic conductive film being formed separately for at least each one of the semiconductor devices.

5. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a plurality of semiconductor devices of a film carrier

type which are disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of each of the plurality of semiconductor devices being respectively connected to terminals of the printed circuit board by an anisotropic conductive film, while terminals of each of the plurality of semiconductor devices are respectively connected to terminals of the liquid crystal display panel by an anisotropic conductive film,

the anisotropic conductive film for connecting the terminals of each of the plurality of semiconductor devices to the terminals of the printed circuit board being formed separately for at least each one of the semiconductor devices,

the anisotropic conductive film for connecting the terminals of each of the plurality of semiconductor devices to the terminals of the liquid crystal display panel being formed in common with the plurality of semiconductor devices.

6. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a plurality of semiconductor devices of a film carrier type which are disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of each of the plurality of semiconductor devices being respectively connected to terminals of the

printed circuit board by an anisotropic conductive film, while terminals of each of the plurality of semiconductor devices are respectively connected to terminals of the liquid crystal display panel by an anisotropic conductive film,

the anisotropic conductive film for connecting the terminals of each of the plurality of semiconductor devices to the terminals of the printed circuit board being formed separately for at least each one of the semiconductor devices,

the anisotropic conductive film for connecting the terminals of each of the plurality of semiconductor devices to the terminals of the liquid crystal display panel being formed separately for at least each one of the semiconductor devices.

7. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a plurality of semiconductor devices of a film carrier type which are disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of each of the plurality of semiconductor devices being respectively connected to terminals of the printed circuit board by an anisotropic conductive film, while terminals of each of the plurality of semiconductor devices are respectively connected to terminals of the liquid

crystal display panel by an anisotropic conductive film,

the anisotropic conductive film for connecting the terminals of the printed circuit board to the terminals of each of the plurality of semiconductor devices being formed to have a lower melting point than the anisotropic conductive film for connecting the terminals of the liquid crystal display panel to the terminals of each of the plurality of semiconductor devices.

8. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a plurality of semiconductor devices of a film carrier type which are disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of each of the plurality of semiconductor devices being respectively connected to terminals of the printed circuit board by an anisotropic conductive film, while terminals of each of the plurality of semiconductor devices are respectively connected to terminals of the liquid crystal display panel by an anisotropic conductive film,

conductive beads which are contained in the anisotropic conductive film for connecting the terminals of the liquid crystal display panel to the terminals of each of the plurality of semiconductor devices being set to be higher in

density than conductive beads which are contained in the anisotropic conductive film for connecting the terminals of the printed circuit board to the terminals of each of the plurality of semiconductor devices.

9. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a plurality of semiconductor devices of a film carrier type which are disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of each of the plurality of semiconductor devices being respectively connected to terminals of the printed circuit board by an anisotropic conductive film, while terminals of each of the plurality of semiconductor devices are respectively connected to terminals of the liquid crystal display panel by an anisotropic conductive film,

conductive beads which are contained in the anisotropic conductive film for connecting the terminals of the liquid crystal display panel to the terminals of each of the plurality of semiconductor devices being set to be larger in size than conductive beads which are contained in the anisotropic conductive film for connecting the terminals of the printed circuit board to the terminals of each of the plurality of semiconductor devices.

10. A method for manufacturing a liquid crystal display device which includes a liquid crystal display panel, a printed circuit board disposed close to the liquid crystal display panel, and a plurality of semiconductor devices of a film carrier type which are disposed to lie between the liquid crystal display panel and the printed circuit board, the method comprising the steps of:

connecting the liquid crystal display panel to the plurality of semiconductor devices by a first anisotropic conductive film; and

connecting the plurality of semiconductor devices to the printed circuit board by a second anisotropic conductive film having a lower melting point than the first anisotropic conductive film.

11. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a semiconductor device of a film carrier type which is disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of the semiconductor device being at least respectively connected to terminals of the printed circuit board by an anisotropic conductive film,

conductive beads which are contained in the anisotropic

conductive film being set to have sizes larger than the thickness of an insulating film which exposes the terminals of the printed circuit board.

12. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a semiconductor device of a film carrier type which is disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of the semiconductor device being at least respectively connected to terminals of the printed circuit board by an anisotropic conductive film,

surfaces of the terminals of the printed circuit board being covered with a material layer incapable of being easily oxidized.

13. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a semiconductor device of a film carrier type which is disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of the semiconductor device being at least respectively connected to terminals of the printed circuit



board by an anisotropic conductive film,

the terminals of the printed circuit board or their surfaces being covered with Au.

14. A liquid crystal display device comprising:

a liquid crystal display panel;

a printed circuit board disposed close to the liquid crystal display panel; and

a semiconductor device of a film carrier type which is disposed to lie between the liquid crystal display panel and the printed circuit board,

terminals of the semiconductor device being at least respectively connected to terminals of the printed circuit board by an anisotropic conductive film,

the terminals of the printed circuit board being disposed in at least two rows, each of the terminals of one of the two rows being located at a position between adjacent ones of the terminals of the other,

the terminals of the semiconductor device which are connected to the respective terminals of the printed circuit board being arranged to correspond to an arrangement of the terminals of the printed circuit board.